are relatively free of unwanted side effects. It is expected that pancuronium will be available for clinical use in the near future.

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Recent Advances in Obstetric Anesthesia

The most important recent advances in obstetric anesthesia are not the new drugs or techniques that have been introduced to provide better analgesia. Rather, they are the major modifications of older established techniques with a view toward preventing serious anesthetic complications such as maternal hypotension and aspiration pneumonitis.

Maternal hypotension may occur in as many as 80 percent of parturients following regional anesthesia for cesarean section. However, with aggressive prophylactic measures the incidence decreases to less than 15 percent. Hypotension is due to a combination of sympathetic blockade and compression of the vena cava by the gravid uterus. Anticipating sympathetic paralysis, many anesthesiologists routinely administer a liter of lactated Ringer's solution intravenously and ephedrine 50 mg intramuscularly within 20 minutes of the block. Immediately following the block and before operation, the uterus is displaced off the inferior vena cava. Left uterine displacement is most easily and successfully accomplished with the use of a mechanical device attached to the surgical table. If such an apparatus is not available, a small pillow placed under the right hip, together with lateral tilting of the surgical table, occasionally is effective in producing left uterine displacement. Should hypotension occur, recent studies have indicated that vasopressors such as ephedrine, Wyamine® or Aramine® are effective in restoring uterine blood flow following spinal hypotension. Pure vasoconstrictor drugs such as Vasoxyl® or Neosynephrine® should be avoided, as these drugs, although restoring the blood pressure, produce further decreases in uterine blood flow with subsequent fetal hypoxia and acidoses.

Aspiration pneumonitis is most easily prevented by avoiding general anesthesia. However, if general anesthesia is used, many anesthesiologists routinely protect the airway of the patient by endotracheal intubation. Because regurgitation or vomiting may also occur during intubation or extubation of the trachea, the following prophylactic techniques are being used with increasing frequency. Before induction of anesthesia (up to 2 hours) one ounce of oral antacid is administered. Maternal gastric pH will immediately rise above dangerous levels. If the patient is awake, intubation is not appropriate, and extremely rapid ("crash") induction of anesthesia is performed with intravenous thiopental and succinylcholine. Because muscular fasciculations caused by succinylcholine may be associated with increased intragastric pressure and a greater tendency for the patient to regurgitate, a 3 mg dose of curare is given 5 minutes before induction of anesthesia. An assistant applies cricoid pressure to compress the esophagus before and during endotracheal intubation. The endotracheal tube is left in place until the patient awakens; she is placed on her side in the head down position, and with suction apparatus immediately available, the endotracheal tube is removed.

One of the greatest tragedies in medicine is death of a mother during childbirth. Complications of anesthesia account for up to 10 percent of all maternal deaths. Many of the deaths might be preventable by use of prophylactic techniques which have been discussed.

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Halogenated Anesthetic Agents

The current status of halogenated anesthetic agents is best characterized by the term "unsteady state." While much new information is